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Personality consistency and psychopathology: an analysis of normals, neurotics, and psychotics

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Personality consistency and psychopathology: An analysis of normals, neurotics, and psychotics

by

Michael Keith Hill

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INTRODUCTION

The present study was designed to assess personality consistency as a dimension of personality and the relationship between consistency and psychopathology. In the following sections, a general review of the personality consistency literature will be presented, and specific reviews relating personality consistency to both maladjustment and adjustment.

Three experimental groups were used to test the hypotheses: normals, neurotics, and paranoid psychotics. A separate section will present the rationale for utilizing these three groups.

Individuals assigned to each of the three experimental groups completed a modified form of the Cross Situation Behavior Survey (CSBS; Appendix C), the Thematic Apperception Test measure of consistency (TAT; Appendix D), and an index of psychological differentiation, the Hidden Shapes Test (HST; Appendix B). The rationale for the utilization of these specific tests, and the complete methodology employed will be presented.

General Review of the Consistency Literature

The publication of Mischel's seminal Personality and Assessment (1968; cf. 1973a, b) renewed the controversy

over situational versus psychodynamic determinants of behavior (Ekehammer, 1974). Based upon his review of the literature, Mischel concluded that:

> With the possible exception of intelligence, highly generalized behavioral consistencies have not been identified, and the concept of personality traits as broad response predispositions is thus untenable.

Mischel's behaviorist, or situationist position, however, has not gone unchallenged. Mischel's critics have advanced a position of interactionism, which maintains the Lewinian formulation that behavior is a function of both the person and the environment (B= f(P,E), 1935).[1] The major criticism of Mischel's position has come from Alker (1972), Wachtel (1973a; 1973b), and Bowers (1973).

Alker (1972) asserts that personality variables can explain behavior, even though that behavior varies from situation to situation. He maintains that the correlation between behaviors in different situations (commonly .20 to .30) is artificially reduced for three reasons. First, personality coefficients are restricted

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[1] It should be noted that Mischel advocated more of an interactionist position in his 1973a paper.

by range, since few studies employ heterogeneous populations (Carlson, 1971), a technique that would more closely estimate the magnitude of the effect. Secondly, ipsative measures are more appropriate than nomothetic ones in the study of personality. In their approach, Opton and Lazarus (1967) show that normative measures, such as heart rate and skin conductance to a stressor, measured across individuals, yielded the standard personality coefficient of .20 to .30. However, ipsative measures, such as determining whether the same person responded with a faster heart rate to a first stressor (a harrowing accident film) than to a second (threat of electric shock), yielded significantly higher personality coefficients (.50 to .60). Thus, the personality organization of the individual, rather than measurement across different individuals, appears to be the important variable (cf. Bem & Allen, 1974). Finally, Alker maintains that multiple regression techniques should be utilized more fully, since responses to personality inventories, rather than individual personality tests measuring one trait, account for more of the behavioral variance (Gough, 1966). Thus in this view, personality coefficients should be derived from R^2 rather than r^2.

Defending psychodynamic thinking, Wachtel (1973a; 1973b) makes two important points. First, the finding

that behavior varies as a function of the situation in no way discredits traditional psychodynamic thinking, since this theory postulates a clear phenotypic - genotypic distinction. Secondly, Wachtel attacks the model of the "implacable experimenter", asserting that the experimental laboratory method is biased in favor of specificity. Since the subject can project very little of him or herself into the experimental situation (cf. Carlson, 1971), change, rather than consistency, should be expected. This point is expanded by Bowers (1973) who maintains that it is easier to notice behavior change with the experimental method, and behavioral stability with correlational techniques. Bowers (1973) maintains that the experimental method, as it is generally employed, is differentially sensitive to the impact of situational variables. This then focuses attention on behavior change in response to these situational variables. Correlational techniques, on the other hand, focus attention on behavioral stability, in that they assess similarity in response to differing situations. Bowers goes on to characterize the two views in terms of behavioral variance accounted for. If the trait position is correct, the majority of the variance should be accounted for by person variables, however, if the specificity hypothesis is correct, situational

influence should predominate. Bowers reviewed seventeen separate studies which provide data sufficient to calculate variance components for persons, settings, and their interaction. The data indicate that neither trait, nor situational components are more potent sources of behavioral variance. An average of 12.7% of the total variance was accounted for by persons, while an average of 10.2% was accounted for by the situation. However, the interaction of person by situation accounted for an average of 20.8% of the total variance. Thus, Bowers concludes that behavior is a function of the interaction of person variables with the environment.

In a more exhaustive review, Sarason, Smith, and Diener (1976) found no difference in the mean and median proportions of variance accounted for by either personality or situational variables. This would indicate that behavior is not solely a function of the personality of the individual, nor of the situational demands imposed by the environment. However, they go on to show that interactions between situational and individual difference variables account for less variance than either of the main effects (mean proportion for situations= 10.3%; mean proportion for persons= 8.7%; mean proportion for the interaction= 4.6%; number of studies reviewed= 102). The

authors explain the discrepancy between their data and Bowers' (1973) on the basis that Bowers included only studies utilizing theoretically relevant personality and situational variables. The Sarason, Smith, and Diener review, however, presents studies in which the independent variables vary along a continuum of theoretical meaningfulness. They maintain that the more theoretically relevant a personality variable is to the situation to be manipulated, the more variance will be accounted for by the person by situation interaction.

While the explanation offered by Sarason et al. (1976) is cogent, there is another biasing factor which may be invoked to explain some of the discrepancy between the two reviews, as well as much of the divergent results found in the literature (Smith, 1952; Owens 1953; Raush, et al., 1959; Raush, et al., 1960; Allport, 1966; Pervin, 1968; Vale & Vale, 1969; Hodges & Felling, 1970; Averill, 1973). These results may also be viewed as a function of the differing populations upon which the data are based. Combining data based on groups of normals, neurotics, and psychotics may obscure qualitative differences among these groups, particularly in the area of personality consistency. As an example, six of the seventeen studies cited by Bowers (1973) used an abnormal population, yet Bowers

combined these studies with all others to arrive at his conclusions. One further study cited by Bowers (Endler, 1973) combined data from normal and abnormal groups within the experiment itself. However, while several writers have advocated distinguishing between normal and abnormal groups (Bowers, 1973; Wachtel, 1973a; Campus, 1974), there has not been firm agreement as to the nature of the relationship between consistency and psychopathology.

A major new approach to the problem of personality consistency is that advocated by Campus (1973; 1974) and Bem and Allen (1974). These authors maintain that trans-situational consistency is a dimension of personality in its own right. This is based on the observation that while behavior is a function of the person, the situation, and their interaction, the relative weights of these variables vary among individuals. Thus, for the extremely consistent person, the characteristics of the person account for the major proportion of behavioral variance. For the inconsistent person, the situation, or the interaction between person and situation, may be the most important determinant. These authors maintain that individual differences in degree of consistency are the variables of interest, and that this differential degree of consistency may have confounded results from earlier studies.

Campus (1974), using a TAT measure of consistency, found that individuals differed reliably in the extent to which their self-report behavior, across situations, was consistent. The degree to which responses were determined by personality variables ranged from 2% to 70%. Bem and Allen (1974), using an idiographic assessment approach with college students, found that those individuals who self-reported consistency were indeed seen as consistent as reflected in ratings made by their mother, father, and a peer. Conversely, those who self-reported specificity were rated as much more variable in their behavior. The major contention of both Campus (1974) and Bem and Allen (1974) is that personality consistency is a dimension of personality itself, in that individuals differ in the degree of consistency they manifest. This premise serves as a possible explanation for the divergent results found by combining data derived from both normal and abnormal populations. The individuals comprising these populations may possess differing levels of personality consistency. In fact, this may be one of the criteria by which they are assigned to either a normal or abnormal group. Trans-situational consistency may be indicative of maladjustment, while inconsistency in behavior may be indicative of adjustment. This contention is based on the premise that

the performance of similar behaviors, across divergent environments, reflects an inability to meet the demands of the new situation. The following section explores the premise that personality consistency is related to maladjustment, and presents the rationale for the hypotheses tested.

Consistency as Maladjustment

In his reply to Mischel, Alker (1972) proposed several reasons for the lack of empirical support for the traditional trait position. One crucial point concerns the population used in the analysis. Alker maintains that situational effects are more pronounced for normal subjects, while variance attributable to personality characteristics should be larger for abnormal subjects. This position is based on two arguments. First, due to the anxiety generated by some of their behaviors, maladjusted individuals may experience a decrease in the number of behaviors available to them, thus leading to the appearance of consistency. Second, abnormal subjects may not be able to extract relevant cues from the environment. This inability would lead them to perform the same behaviors across diverse situations, thus becoming labeled as maladjusted.

Both Alker (1972) and Wachtel (1973a; 1973b) argue that the difference in emphasis upon intrapsychic consistency versus situational specificity may reflect differences in the two distinct populations used. The first population includes hospitalized or disturbed individuals seen in the clinical context of practicing therapists. These individuals were seen primarily for their inability to adjust to the environment in which they lived, and it is from this population that the theoretical basis of psychodynamic theory was formed. The second population includes the relatively normal individuals in sophomore psychology classes who have generated the majority of the data on situational specificity, a population that provides ample evidence of its ability to adjust to the demands of the situation. Thus, since two distinct and different populations have been used, differences in personality consistency are to be expected. This contention is supported by the data provided by Moos (1969) and Snyder and Monson (1976). Moos (1969) found that when subjects were tested as in-patients on a psychiatric ward, personality variables accounted for the largest proportion of variance. However, similar testing done on subjects judged ready for release showed that personality by situation interactions accounted for the largest proportion of variance. Snyder and Monson (1976) manipulated

both self-monitoring (the degree to which a person is aware of his own behavior) and neuroticism, and found that individuals with high scores on their neuroticism scale were virtually unaffected by situational variation. They concluded that neurotics may have specifically learned to ignore situational cues, or to over-generalize similarities. This conclusion is similar to that reached by both Bem (1972) and Mariotto and Paul (1975). Bem (1972), in his research on psychological defensiveness, found that those subjects who were highly defensive may self-monitor their behavior, resulting in considerable consistency. On the other hand, those low in defensiveness may feel no need to self-monitor, and thus are free to respond to situational influences. Mariotto and Paul (1975) found that chronically institutionalized patients had the majority of their behavioral variability accounted for by person variables, but that strong situational effects could force variability.

In his highly influential article, Bowers (1973) reviewed seventeen studies that assessed variance accounted for by persons, situations, and their interaction. Of interest here is his contention that main effects due to persons are less evident in normal than in disturbed populations. The seventeen studies reviewed allowed

comparisons between ten samples of normal, and eight samples of disturbed individuals. The average percentages of variance accounted for are presented in Table 1.

Table 1. Average percentage of accounted for variance.

Group	Percentage		
	Person	Situation	Pers. x Sit.
Normal	10.1	11.5	18.0
Disturbed	14.7	7.7	23.4

As can be seen from the data, the interaction of person and environment accounts for the plurality of the variance for both groups. However, consistent with Bowers' thesis, person variance is greater for disturbed individuals than for normals, supporting the contention that consistency may be more evident in disturbed populations.

In his research on general trait anxiety, Endler (1973) appears to present data highly compatible with the premise that consistency is related to maladjustment. An examination of his data shows the following percentage of variance for persons: Normals= 2.59%; Neurotics= 12.13%;

Psychotics= 18.78%. Endler, however, argues against this interpretation. He maintains that the validity of the data for psychotic patients was questionable since data had to be discarded for some patients because they did not complete the questionnaire. He also points out that the residual variance for the psychotic sample was 51.11%, seriously impairing the validity of his data. Thus, while the data Endler presents are suggestive, the methodological problems limit both validity and interpretation.

Considered singly, or as a group, the authors in this section present fairly strong evidence in support of their contention that the main effect for personality should account for the greatest percentage of the variance for maladjusted individuals.

Although most of the research suggests a link between consistency and maladjustment, a few findings suggest the opposite (Lecky, 1945; Brownfain, 1952; Block, 1961; Gough & Heilbrun, 1965; Campus, 1974). These authors present theoretical and empirical support for the contention that personality consistency is related to positive adjustment. For instance, Campus (1974) obtained a negative relationship between consistency (as measured on the TAT) and a factor (derived from analysis of TAT need scores) loading on overt hostility, exhibitionism, and intrapunitive

hostility. In addition, both Brownfain (1952) and Block (1961) present evidence indicating a positive relationship between behavioral consistency and a positive self-concept. Both authors interpret their data as supporting a consistency as adjustment premise.

At this point, the discrepancy between these competing points of view is unresolved. The present study was designed to assess personality consistency as a function of the degree of pathology. In order to ensure a diversity of maladjustment, three groups were chosen to test the consistency hypothesis: normals, neurotics, and paranoid psychotics. The next section presents the rationale for using these groups.

Rationale for Experimental Groups

The rationale for utilizing the three groups selected is based both on the literature directly relating to consistency (i.e. Moos, 1969; Endler, 1973), and the literature pertaining to differentiation of pathological types (Hamlin & Lorr, 1971).

Both Moos (1969) and Endler (1973) examined person and situation effects by using normal and abnormal groups. Moos (1969) tested in-patients confined to the ward, and those judged ready for release. However, Moos did not

discriminate among his subjects. All were simply classified with the generic label "neuropsychiatric disorder". Thus, although he showed that the interaction of person and situation accounted for more of the variance as degree of pathology decreased, possibly differential effects within his patient sample were obscured. Endler (1973) used groups composed of normals, neurotics, and psychotics to show that variance attributable to person increased as a function of pathology. Endler, however, used diagnosis as the sole criterion for inclusion, and his three groups were from three different sources.

Hamlin and Lorr's (1971) discriminant function analysis lends major support to the establishment of the three experimental groups chosen. These authors performed two separate discriminant function analyses on behavioral and psychological assessment data of a priori groups of subjects. Both analyses yielded two canonical variates. Vector I separated the normals from the psychotics, and Vector II set the neurotics off from all other groups. This, then, clearly indicates that these three groups can be reliably separated to form an hypothesized continuum of maladjustment, allowing the present study to specifically assess consistency as a function of pathology, as well as pathological/non-

pathological distinctions.

Assessment Indices

Three separate indices were used in assessing trans-situational consistency. This was done for three reasons. First, method bias due to the use of a single method of measurement limits the generalizability of the results (Horn & Cattell, 1965). The use of three separate indices will allow generalizations to other assessment procedures. Second, it may be that the divergent results found in the literature are a function of the method used to assess consistency. The use of three different measures in one study may help to resolve this discrepancy. At the same time, congruency across all three measures would strongly support interpretation of the obtained data. Third, although the three indices are primarily self-report measures, their format is quite different. The Hidden Shapes Test, while self-report based, is strongly related to behavior, along the dimension of field dependence/ independence. The Cross Situation Behavior Survey (Bem & Allen, 1974) is a highly structured questionnaire, designed to elicit subjects' probable responses to specified situations. The TAT measure of consistency (Campus, 1974), however, is a non-structured index. From the subject's

viewpoint, he is simply making up a story. It is from the story that the measure of consistency is derived.

The use of the TAT and the CSBS, within the same experiment, allowed comparisons to be drawn between structured and non-structured tests. As stated earlier, a variety of assessment indices have been used, with a resulting divergence of results. It seems apparent that this divergence may be the result of using different types of tasks, with different groups of subjects. Thus, this study used both structured and non-structured tasks, with both normal and pathological groups, to assess differential responses to the indices, as a function of their ambiguity.

Hidden Shapes Test

Witkin, et al. (1962), in their discussion of the embedded figures test, maintained that the accuracy with which a person could detect simple figures that have been hidden within complex ones was to be taken as a measure of psychological differentiation (formerly called field independence). Witkin and his associates (Witkin, 1950; Linton, 1955; Witkin, et al., 1962) have shown that there are consistent individual differences between highly-differentiated and less differentiated

individuals. Those that are less differentiated tend to be more passive in coping with life situations, less insightful, and more afraid of their own impulses (Witkin et al., 1962). In addition, less differentiated persons appear to be more easily influenced by suggestion (Linton, 1955).

Of primary concern here is the relation of psychological differentiation to the consistency-specificity issue. In his discussion of psychological differentiation, Witkin asserts that one of its primary aspects is the ability of an individual to actively scan the environment, to extract relevant cues from that setting, and then to modify his behavior in accordance with those cues. In terms of this study, then, the highly differentiated, or normal, person should be more aware of the demands imposed by the situation, and more able to change his behavior as a function of those demands. On the other hand, the less differentiated individual, either psychotic or neurotic, is less attentive to situational influence, and, in addition, less malleable in his behavior, thus lowering responsivity to changes in the environment.

Cross Situation Behavior Survey

Bem and Allen (1974), reasoning that individuals may vary in their degree of consistency, as well as areas

within which they may be consistent, had subjects self-assess their behavior using the Cross Situation Behavior Survey (CSBS; modified version in Appendix C). This scale assesses consistency across situations related to the traits of Friendliness, Conscientiousness, Assertiveness, Honesty, and Sensitivity by asking the subject to predict his behavior to a specific situation (e.g. How neat do you keep your room?). In addition, subjects were asked to make global impressions of themselves for each trait (e.g. In general, how friendly and outgoing are you?), and to assess their variability across situations (e.g. How much do you vary from one situation to another in how friendly and outgoing you are?). Responses were obtained on a seven-point scale which ranged from "Not at all" to "Extremely".

After selecting subjects who self-reported either high (1 or 2 on their scale) or low (6 or 7) consistency, external observers (father, mother, peer) rated the subject using the CSBS. Inter-rater correlations revealed striking differences between the ratings of consistent and inconsistent individuals. For example, for the trait of Friendliness, those individuals who self-reported consistency received an average rating of behavioral consistency, by the external raters, of .57, while the average correlation for the inconsistent individuals was

only .27. Thus, those individuals self-reporting consistency in their behavior were perceived as consistent by external observers.

The authors also report on the analysis done for the trait of Conscientiousness (no report was made for the traits of Assertiveness, Honesty, and Sensitivity). Rather than dichotomize on the basis of a single score, the subject's variance across the items pertaining to this trait was divided by his total variance across all items in the questionnaire. The smaller this ratio became, the less variance, or more consistency, the individual manifested. The results obtained by this method were comparable to those obtained with the trait of Friendliness. Individuals identified as consistent received an average consistency coefficient of .45, while inconsistent individuals received a correlation of only .09. Thus, by using the ratio of two variances (F-max), the subject's variability on each trait could be compared to his total variability.

For this study, subjects performed ratings of their own behavior using a modified form of the CSBS (Appendix C). This allowed comparisons to be made, in the form of proportion of accounted for variance (omega-squared), between the three experimental groups. Subjects' scores

on each question (1 to 7) were used to construct the five (needs) by fifteen (situations) by fifteen (subjects) matrix necessary for the repeated measures analysis of variance.

In order to make the scale appropriate for the population used, inappropriate questions were omitted from the scale (e.g. How likely are you to cut classes? How often do you double-check term papers for typing and spelling errors?). This left fifteen questions assessing each of the five traits.

At this point it would be well to discuss the use of external raters. Bem and Allen (1974), in their analysis, used mother, father, and peer report to assess consistency. This study used only the subjects' self-report. The reason external raters were not used is as follows: Bem and Allen were attempting to assess correspondence between subjects' self-ratings and others' perceptions. Using this approach, they were successful. Subjects who self-reported consistency were indeed seen as consistent; subjects self-reporting variability in behavior were seen as highly variable. Thus, Bem and Allen demonstrated that the subjects' self-ratings had a basis in reality, and that their self-report related to their actual behavior (as seen by others). In the present study, the obvious

difficulty of obtaining external reports precluded using this method. Many of these subjects maintained only marginal contact with others, making external reports impossible to obtain. Due to these circumstances, and based on the conclusions drawn by Bem and Allen (1974), it was assumed that the subjects' self-reports had some basis in the reality of their individual behavior.

Thematic Apperception Test

Campus (1974) used the TAT in her work on personality consistency. For her study, Campus instructed male undergraduates to write a story for each of the situations depicted in the sixteen TAT cards she used. After writing their stories, the subjects were asked to rate the person in each story according to a list of adjectives provided (see Appendix D).

Murray's (1938) system of personality needs was used as the framework for selecting the adjectives involved in the self-descriptions. Needs were regarded by Murray both as states which fluctuate from situation to situation, and as characteristics of the personality which can be measured across situations.

The adjective list involved using two adjectives to measure each need. For final inclusion in the scale,

each adjective had to meet two criteria: First, judges matched the adjectives with descriptions of personality needs as advanced by Murray (1938). For inclusion, 70% of the judges had to agree that the adjective was an indicator of a given need. Second, the overall correlation between the two adjectives for a single need had to be significant and higher than their correlation with the adjectives measuring other needs. Seventeen needs (and thus thirty four adjectives) met these criteria.

To obtain need scores from the TAT stories, Campus' subjects rated their own stories on the adjective rating scale (Appendix D). Each adjective was rated on a seven-point scale ranging from "Definitely No" to "Definitely Yes". The scores for the two adjectives measuring each need were summed to yield need scores for each card. Averaging need scores across cards yielded an overall measure of the seventeen needs. This was then analyzed to obtain an eta consistency index. A high eta for a particular subject signified a relatively large amount of variability among the mean need scores taken across the TAT cards. Thus, the greater the eta index, the greater the variability.

For the present study, four graduate students from the University of South Carolina were utilized for the

scoring of TAT responses. Each rater assessed the presence and strength of each of the thirty-four adjectives for all stories. Raters were trained in the use of the adjective rating scale (Appendix D) by the use of practice ratings of TAT stories.

Specific instructions for the raters were:

> Indicate the extent to which each of the following adjectives describe the kind of person depicted in each story.

Reliability figures for the raters were computed using the Spearman-Brown prophecy formula (Nunnally, 1967).

To construct the eight (cards) x seventeen (needs) x fifteen (subjects) matrix necessary for the repeated-measures analysis of variance, each rater's score for the two adjectives measuring each need were summed. Then, the mean of the four sum scores for each need was derived. This mean score was then entered in the ANOVA matrix.

From the full complement of sixteen adult cards, eight were utilized in this study (cards 1, 3BM, 4, 5, 10, 14, 15, 17 GF). These were selected because they presented one primary figure with which the subject could identify, and provided, as well, a wide range of sample situations.

HYPOTHESES

Primary Hypothesis

Due to the anxiety generated by the performance of specific behaviors and behavioral self-monitoring, psychotic subjects will show the greatest percentage of variance accounted for by personality factors (needs). Conversely, normal subjects will show the least amount of personality consistency and will have more of their behavioral variance accounted for by the situation main effect.

Secondary Hypothesis

For normal subjects, both the structured (CSBS) and non-structured (TAT) tasks will show similar results. For neurotic subjects, due to the anxiety aroused by the ambiguity of the situation, variability on the non-structured task will be reduced. The psychotic subjects will be most constricted on the non-structured task, due to the ambiguity leading to suspiciousness, and thus causing greater self-monitoring, decreasing variability.

METHOD

Subjects

A total of seventy three potential subjects were screened for inclusion in this study, forty-five of whom were selected. In addition, two subjects were discarded and replaced, one each from the Neurotic and Psychotic groups. These subjects were discarded for (1) repeated failure to keep appointments for the second session, and (2) extreme paranoid reaction against making up a story for the TAT measure.

Thirty subjects (thirteen male and seventeen female) were recruited from the out-patient psychiatric population of the Northwest Community Mental Health Center. Subjects were assigned to one of the pathological groups on the basis of the decision rules detailed below. In addition, fifteen subjects (six male and nine female) were obtained from the Eastside Social Service Center, the area welfare agency, to comprise the normal group. Rules for inclusion in this group are also outlined below.

Psychopathological subjects were recruited by advertising to psychiatric clinicians at the Northwest Community Mental Health Center, a division of Denver General Hospital. Subjects meeting the diagnostic criteria for

being either neurotic or paranoid psychotic were referred to the experimenter for screening. Due to medical restrictions which prohibited the use of subjects from the medical service, normal subjects were obtained by advertising for volunteers from the area social services agency, who were likewise referred for screening.

All pathological subjects, selected for inclusion in the study on the basis of both their diagnosis and the screening test, were paid five dollars for their participation. Due to procedures that prohibited financial payments to normal subjects, these individuals were reimbursed for their time in the form of individual feedback on the results of their testing. The concept of reimbursement was stressed in an effort to equate normal and pathological groups.

Subject characteristics

All subjects used in this experiment were between the ages of twenty-five and thirty-two, with a median age of approximately thirty-two. Since subjects comprising both sexes and different racial groups were used, each group was balanced to maintain equivalence. Results of testing for equality of male-female proportions in each of the experimental groups indicated no difference between the

groups (Z= 1.63, n.s.). An analysis to ensure equal proportions of white and non-white subjects in the experimental groups also showed no difference between the groups (Z= 1.56 n.s.).

Experimental groups

Three experimental groups were used in this study: normals, neurotics and psychotics. Criteria for inclusion were based on the following:

Previous researchers (Moos, 1969; Endler, 1973) have used diagnosis as the device to assign individuals to normal and abnormal (neurotic-psychotic) groups. However, research has shown the reliability of differential diagnosis to be between 50% and 85% agreement (Schmidt & Fonda, 1956; Beck, 1962). Therefore, it was felt that additional evidence should be required for inclusion into the experimental groups. Thus, two criteria were used.

First, all subjects completed the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943). The Meehl and Dahlstrom rules (Meehl & Dahlstrom, 1960; Appendix E) for differentiating neurotics from psychotics were applied to each profile. The Meehl and Dahlstrom rules are an objective, empirically based set of decision rules used to assign MMPI profiles to one

of three curve types: Indeterminate, Neurotic; Psychotic. Separate rules were derived for inclusion into the normal group, as outlined below.

Second, for the two pathological groups (neurotic-psychotic), the diagnosis of the attending clinician had to agree with the curve type arrived at by the use of the Meehl and Dahlstrom rules. If these two indices did not concur (i.e., diagnosis: paranoid schizophrenic; Meehl and Dahlstrom curve type: neurotic) that subject was not included.

The following are the decision rules for each of the experimental groups:

Normal Group. Fifteen subjects were assigned to this group based upon successfully meeting the following criteria:

1. All MMPI scale scores (with the exception of scale 4) were between T-scores of 30 and 70. Scale 4 was excepted since a high score on that scale was considered normal for the population used in the study, indicating acceptance of some unconventional behaviors.
2. The mean T-score for each subject was computed. Both the highest scale T-score (second highest if scale 4 was elevated) and the lowest scale T-score did not exceed the mean by more than two s.d.

Neurotic Group. Fifteen subjects were assigned to this group based upon the following criteria:

1. Assignment to the Neurotic curve type under the Meehl and Dahlstrom rules (Appendix E).
2. Diagnosis of neurosis by the attending clinician.
3. Elevation on scale 2 (D) between T-score of 70 and 100. Scale 2 is commonly used as an index of psychological discomfort, and the elevation assured differentiation from the normal group.

Parnoid Psychotic Group. The original intention of this study was to use groups of paranoid and non-paranoid psychotics. However, non-paranoid psychotic individuals proved to be extremely difficult to locate. Thus, it was decided to use only the one psychotic group.

Fifteen subjects were assigned to this group based on these criteria:

1. Assignment to the Psychotic curve type under the Meehl and Dahlstrom rules (Appendix E).
2. Diagnosis of paranoid psychosis by the attending clinician.
3. MMPI scale 2 (D) elevated between T-scores of 70 and 100.

Procedure

All clinicians at the Northwest Community Mental Health Center, a division of Denver General Hospital, were requested to discuss with their clients the possibility of participating in this research. All potential subjects were informed that they would be paid five dollars for their participation, but that they would be paid only if chosen for inclusion in the study. Subjects derived from the social service agency were told that they would be reimbursed by individual feedback. It was explained that participation was based upon a screening test. If the potential subject evidenced interest at this point he was referred for screening.

As subjects were referred, they were met individually to arrange for completion of the screening test (MMPI). Before completing the MMPI, all subjects read and signed the consent form (Appendix A). Standard MMPI instructions were given and the subject was left to complete the inventory.

Once the subject had been assigned to one of the three experimental groups, individual testing sessions of one hour were arranged with each subject. Subjects were met individually and taken to a private room for the second session. The Hidden Shapes Test, the TAT and the

CSBS were counterbalanced for order of presentation. For the TAT, each subject was told that this was a task involving the use of his imagination. Each subject was asked to make up a story for each picture, imagining that he was the person in the picture. The story was to describe what was going on in the picture and what the person was thinking, feeling or doing. Each story was transcribed by the experimenter as it was told.

Instructions for the CSBS are detailed in Appendix C. The examiner recorded the subject's responses until satisfied that the subject was well-acquainted with the instructions and could proceed alone.

Instructions for the Hidden Shapes Test are outlined in Appendix B. Again, the experimenter recorded responses until satisfied that the subject could proceed alone.

After completion of all tasks, the subjects were debriefed concerning the nature of the study. Subjects were then paid and dismissed. For those subjects whose incentive was feedback, an additional session was arranged at that time.

Data Analyses

Data analyses for each of the three indices employed, the Hidden Shapes Test (Appendix B), the Cross Situational

Behavior Survey (Appendix C) and the Thematic Apperception Test (Appendix D), are discussed separately.

Hidden Shapes Test

Data analysis for the Hidden Shapes Test was based on a standard between groups analysis of variance, conducted on each subject's total score. Based on the results of this analysis, Tukey's Honest Significant Differences Test (HSD; Kirk, 1968) was employed to test mean differences among the three experimental groups.

Cross Situation Behavior Survey

Data analysis for the CSBS began with an analysis of variance on the five (needs) by fifteen (subjects) by fifteen (situations) matrix yielded by the CSBS questionnaire. Separate analyses were conducted for each of the three experimental groups. Each ANOVA yielded mean square estimates for traits, situations, their interaction and the various error terms (Kirk, 1968). Variance components were derived from the mean square estimates (Vaughn & Corballis, 1969; Dwyer, 1974; Gaebelein & Soderquist, 1976).

From the derived variance components, the omega-squared proportions were calculated (Hays, 1963). This computation

expresses the proportion of total variance, for which the variable of interest accounts, and allows comparisons to be made of the relative contribution for each group of person, situation and interaction variance.

Thematic Apperception Test

Analysis of the TAT was based on the matrix derived from the ratings of each subject's TAT stories. The obtained analysis of variance yielded mean squares, from which variance components were derived. Separate analyses were conducted for each group. Calculations for the omega-squared index were the same as for the CSBS.

RESULTS

Hidden Shapes Test

A simple between-groups analysis of variance was conducted across the three experimental groups. Results of this analysis, presented in Table 2, indicate significant mean differences among the three experimental groups

Table 2. Hidden Shapes Test ANOVA for Normal, Neurotic, and Psychotic groups.

Source	SS	df	MS	F
Group	551.1111	2	275.5556	4.88*
Residual	2370.6667	42	56.4444	
Total	2921.7778	44		

*p < .05

(Normal $\bar{X}$= 31.67; Neurotic $\bar{X}$= 27.56; Psychotic $\bar{X}$= 23.67; F= 4.88, df= 2,42, p < .05). Further analysis, utilizing the Honest Significant Difference Test (HSD; Kirk, 1968) shows that, as hypothesized, marginally significant differences exist between the mean for Normal and Neurotic groups (HSD < .10), and significant differences exist between Normals and Psychotics (HSD < .05). No difference

was found between Neurotic and Psychotic groups.

Cross Situation Behavior Survey

Subject's responses to each question on the CSBS questionnaire were analyzed in a fixed-effects repeated-measures analysis of variance format. Analysis of variance procedures were used to obtain mean square estimates from which variance components and proportions of accounted for variance were derived (Hays, 1963). Table 3 presents mean squares, degrees of freedom, variance estimates (omega-squared) for the data generated by the three experimental groups.

This analysis shows that the interaction of Needs and Situations accounted for the plurality of the observed variance in both Normal and Psychotic groups (Normal p= .1463; Psychotic p= .0935), while accounting for somewhat less variance in the Neurotic group (Neurotic p= .0382). The main effects for both Needs (Normal p= .0375; Neurotic p= .0385; Psychotic p= .0499) and Situations (Normal p= .0424; Neurotic p= .0104; Psychotic p= .0203) consistently accounted for relatively small proportions of the total variance. These data are graphically presented in Figure 1.

Table 4 presents the rank orders for the five needs expressed in the CSBS. As can be seen from the table,

the only observed difference was a reversal of the rank order for the needs of Honesty and Conscientiousness for the two pathological groups. Due to the small number of items, rank order analyses were not performed.

Table 3. CSBS variance components and omega-squared.

Group	Source	MS	df	Variance Component	w^2
Normal					
	Need	42.8209	4	.1325	.0375
	Situation	14.6663	14	.1497	.0424
	Need x Sit.	12.6366	56	.5164	.1463
	Subjects	18.9177	14	.2522	.0715
	Need x Sub.	5.5595	56	.2965	.0840
	Sit. x Sub.	2.6385	196	.4925	.1395
	Need x Sit. x Sub.	2.2629	784	1.6896	.4787
Neurotic					
	Need	52.2058	4	.1581	.0385
	Situation	7.7826	14	.0427	.0104
	Need x Sit.	6.3301	56	.1569	.0382
	Subjects	10.9959	14	.1466	.0357
	Need x Sub.	7.7267	56	.4121	.1005
	Sit. x Sub.	4.3514	196	.8123	.1980
	Need x Sit. x Sub.	3.1786	784	2.3734	.5786
Psychotic					
	Need	71.0702	4	.2285	.0499
	Situation	12.2518	14	.0932	.0203
	Need x Sit.	11.6878	56	.4278	.0935
	Subjects	19.9147	14	.2655	.0580
	Need x Sub.	6.8174	56	.3636	.0794
	Sit. x Sub.	4.7605	196	.8886	.1942
	Need x Sit. x Sub.	3.0931	784	2.3095	.5046

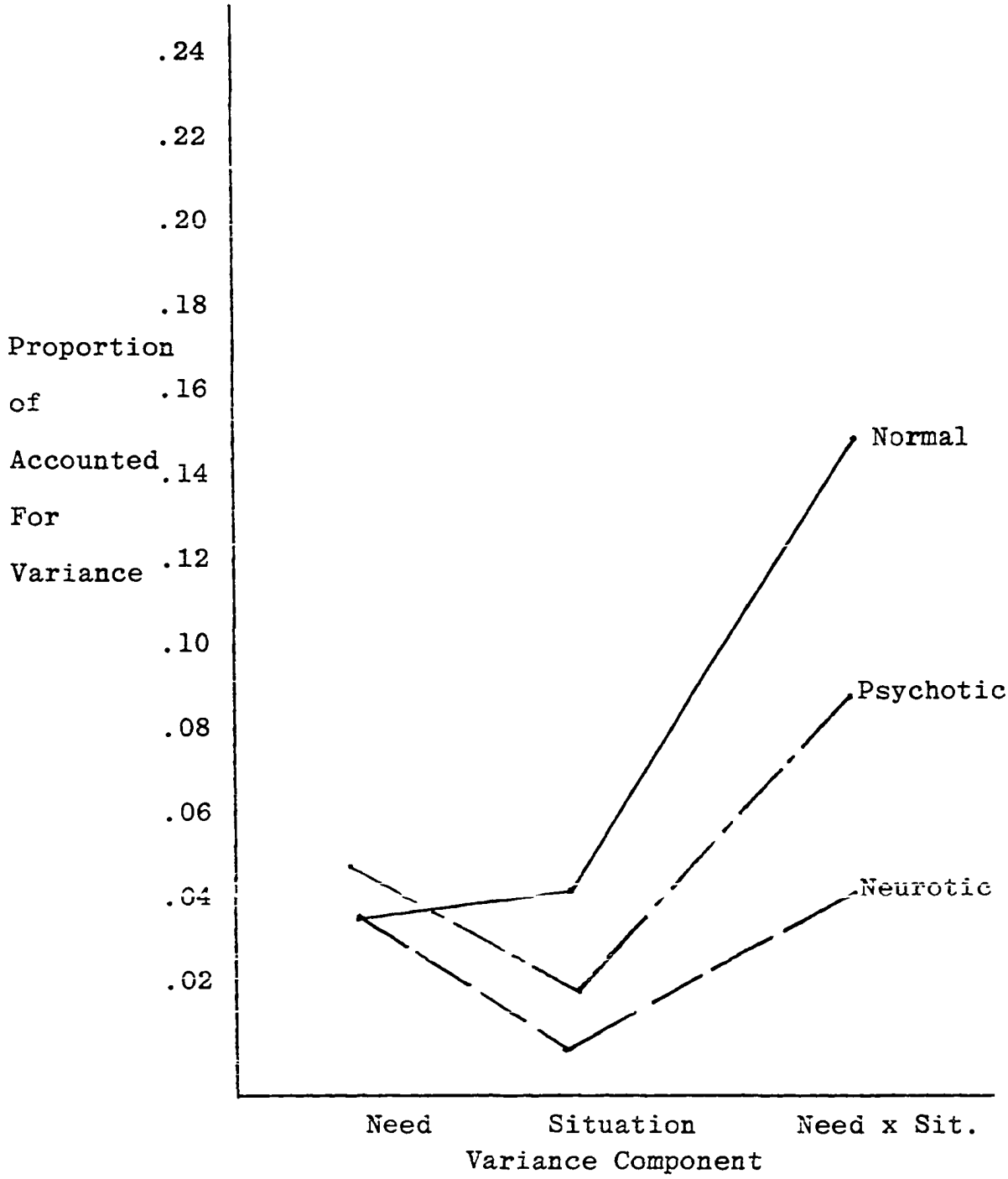

Figure 1. Proportions of variance for the CSBS.

Table 4. Rank order of Needs for the CSBS.

Need	Normal	Neurotic	Psychotic
Sensitivity	1	1	1
Honesty	2	3	3
Conscientiousness	3	2	2
Friendliness	4	4	4
Assertiveness	5	5	5

Thematic Apperception Test

Analysis of the TAT was based on ratings of the subjects' stories to eight cards, which were analyzed via a fixed-effects within-groups analysis of variance design. The analysis for the inter-rater reliability coefficient is presented first, followed by the groups analysis.

Inter-rater reliability

Four trained raters were used to score each subject's stories. The adjectives used by the raters are presented in Appendix D(1). Inter-rater correlations were analyzed using the Spearman-Brown prophecy formula (Nunnally, 1967) to

obtain an index of reliability. This analysis yielded an inter-rater reliability coefficient of .53.

TAT analysis

Analysis of variance procedures were used to obtain mean square estimates, from which variance components were estimated. Table 5 presents the analyses on the TAT measure for all three experimental groups.

Examination of Table 5 shows that, across all three experimental groups, the plurality of the total variance was accounted for by the main effect for Needs (Normal p= .1747; Neurotic p= .1873; Psychotic p= .2058). The interaction of Needs and Situations also accounted for a large proportion of the observed variance (Normal p= .1373; Neurotic p= .1712; Psychotic p= .1610), while the main effect for Situations consistency accounted for a trivial amount of variation (Normal p= .0133; Neurotic p= .0085; Psychotic p= .0100). These data are graphically represented in Figure 2.

Table 6 presents the rank-order for each experimental group on the seventeen needs derived from the TAT. Results of the rank order correlation analyses show that there are, essentially, no differences between the three groups (Neurotic-Psychotic rho= .97; Normal-Pathological rho= .93).

Table 5. Variance components and omega-squared for the TAT.

Group	Source	MS	df	Variance Component	w^2
Normal					
	Need	80.0443	16	.6038	.1747
	Situation	16.2530	7	.0459	.0133
	Need x Sit.	10.6629	112	.4745	.1373
	Subjects	21.6438	14	.1591	.0460
	Need x Sub.	3.0648	224	.3606	.1043
	Sit. x Sub.	2.8787	98	.1482	.0429
	Need x Sit. x Sub.	2.0204	1568	1.6639	.4815
Neurotic					
	Need	49.5902	16	.3742	.1873
	Situation	6.8507	7	.0170	.0085
	Need x Sit.	7.2324	112	.3420	.1712
	Subjects	16.4660	14	.1211	.0606
	Need x Sub.	1.8752	224	.2206	.1104
	Sit. x Sub.	1.8937	98	.0975	.0488
	Need x Sit. x Sub.	1.0023	1568	.8254	.4132
Psychotic					
	Need	54.3103	16	.4114	.2058
	Situation	8.4474	7	.0199	.0100
	Need x Sit.	6.8670	112	.3217	.1610
	Subjects	8.2873	14	.0617	.0309
	Need x Sub.	1.8554	224	.2183	.1093
	Sit. x Sub.	2.6545	98	.1366	.0683
	Need x Sit. x Sub.	1.0066	1568	.8290	.4148

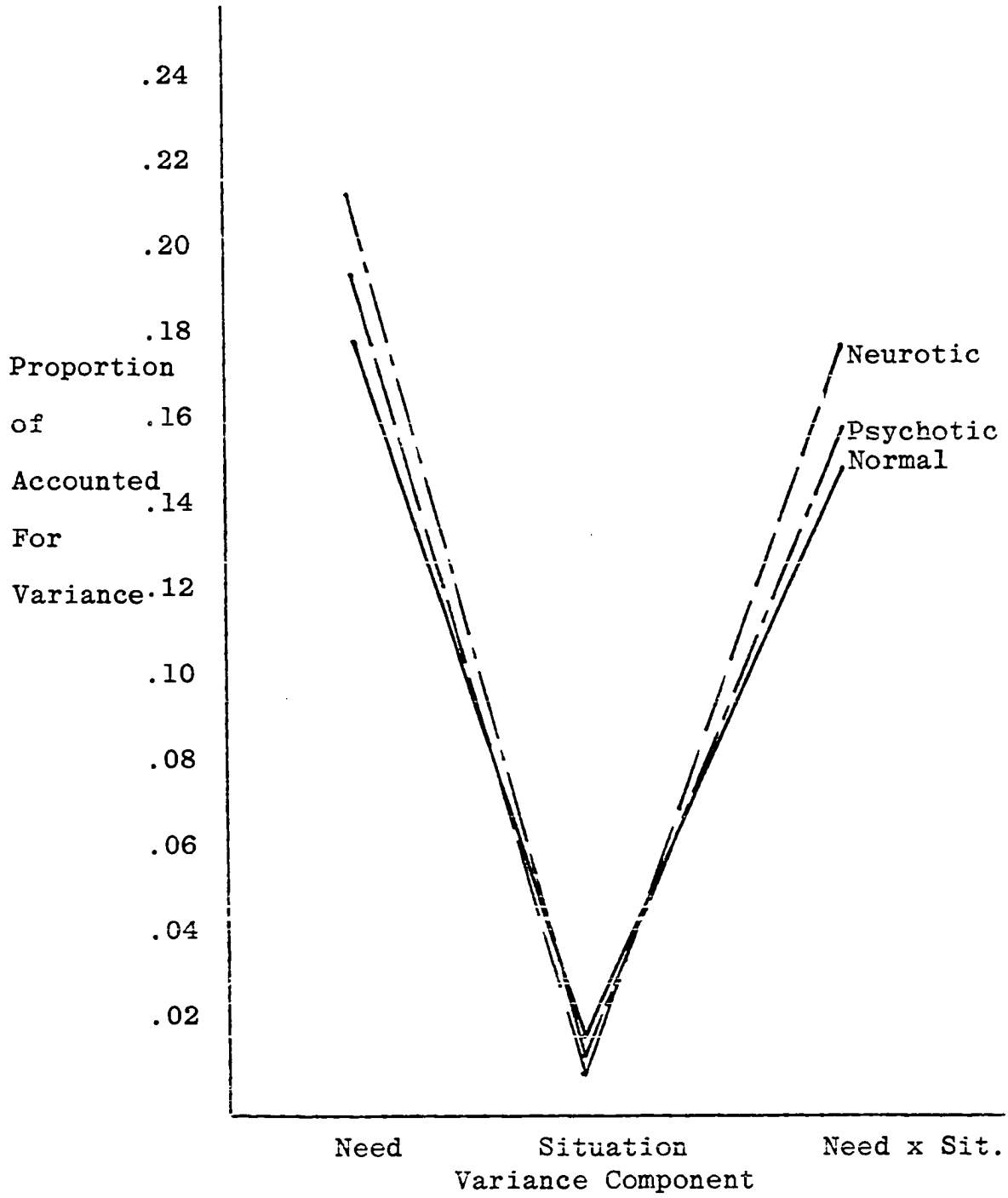

Figure 2. Proportions of variance for the TAT.

Table 6. Rank-order analysis of the TAT needs.

Need	Normal	Neurotic	Psychotic
Counteraction	1	1	1
Order	2	2	2
Deference	3	6	4
Nurturance	4	3	3
Achievement	5	8	8
Autonomy	6	5	7
Affiliation	7	4	5
Defendence	8	11	10
Exhibition	9	9	9
Aggression	10	12	11
Dominance	11	7	6
Sentience	12	10	12
Harmavoidance	13	13	13
Abasement	14	14	14
Sex	15	16	17
Infavoidance	16	15	15
Play	17	17	16

Cross Groups and Measures Comparisons

Table 7 presents the proportions derived from the analyses on both the CSBS and the TAT measures for the three experimental groups. Data presented in this table are omega-squared coefficients (Hays, 1963), computed from the variance estimates.

As indicated in Table 7, no consistent significant differences emerged among the three experimental groups. Under both indices, the personality determinant (Needs)

accounted for only a slightly greater proportion of variance for Psychotic subjects, when compared to either Normal or Neurotic subjects. In addition, no support was found for the secondary hypothesis of differential variability across the three groups as a function of task ambiguity. For all three groups, the TAT appeared to enhance variability, while the CSBS appeared to constrict response variability. No reliable differentiation was observed.

Table 7. Cross Groups and Measures Comparisons.

Measure	Variance Comp.	Normal	Neurotic	Psychotic
CSBS				
	Need	.0375	.0385	.0499
	Situation	.0424	.0104	.0203
	Need x Sit.	.1463	.0382	.0935
TAT				
	Need	.1747	.1873	.2058
	Situation	.0133	.0085	.0100
	Need x Sit.	.1373	.1712	.1610

DISCUSSION

Although a positive relationship between personality consistency and psychopathology was hypothesized, the results clearly indicate that little relationship was evident. Across all three experimental groups, the plurality of the total variance was accounted for by either the interaction term, or the personality determinant (needs). Situational effects accounted for only a trivial proportion of the total variance. Within these constraints, little support was found for differential effects as a function of pathology. Examination of the HST shows that, although the hypothesized relationships were not apparent, normal subjects were found to be more psychologically differentiated than either neurotics or psychotics, with no differences observed between pathological groups. However, since a variety of alternative explanations (i.e. Hidden Shapes as an ability or attentional measure) may be presented, meaningful interpretation is problematic.

At the outset, it should be noted that methodological problems have imposed severe limitations on data interpretation. The extremely small proportions of accounted for variance for the CSBS, and the extremely small proportions for all situation main effects present serious problems.

Of primary importance is the limitation imposed by the observed extremely small proportions of variance attributable to the main effect for situations. Consistently, across both the CSBS, and the TAT, the proportion of variance attributable to the situation remained below four per cent. One primary cause may have been the situational manipulations *per se*, which appear to have been relatively weak for both the CSBS and the TAT. Bem and Allen (1974) used the CSBS to index concurrence between self and other reports, in the form of inter-rater reliability coefficients. For this study, however, the situation main effect was derived from the actual questions each subject answered. High variance on the effect would have required widely divergent answers to each question. Since questions were related, in that they were designed to reflect a given need, variation was methodologically limited. Likewise, on the TAT, the cards themselves served as the stimulus situation. Each subject used the presented situation as the basis of his story, which was self-generated. Mischel (1973a) has maintained that, as the situation becomes either weak, or ambiguous, situational influence decreases. This, then, leads to an increase in the influence of personality factors. Thus, inflated personality effects and lowered situational effects should have been expected.

In a more general sense, the extremely low proportions of variance found for both needs and situations on the CSBS is cause for concern. It may have been that the highly structured format of the CSBS, coupled with the obvious social desirability of the needs assessed, were simply too strong to elicit variability. Considering Mischel's (1973b) arguments asserting that paper and pencil measures reflect greater consistency, it may be that the results of the CSBS are spurious, and thus unreliable.

While the TAT appears to be the more reliable self-report index used, the finding of an extremely small inter-rater reliability coefficient limits interpretation. This figure obviously serves to limit generalizability, but also has a strong effect on the obtained variance components. Since these components were based on the ratings, high variability may have contributed to the observed large error terms. These large error terms (as noted by Endler, 1973) seriously limit interpretation of the obtained data.

Finally, perhaps the most severe limitation was imposed by the enforced use of a non-equivalent normal group. The study originally intended to use a normal group obtained from the same setting as the pathological

groups, however, medical procedures forced the change to the group actually used. Thus, while every effort was made to equate the groups, the existing differences (reimbursement and source of referral) presented serious problems, and make any observed experimental differences subject to multiple explanations.

While these limitations effectively limit meaningful interpretation of the obtained data, they do indicate broad areas in which this study could be effectively redesigned. Of primary importance is the need for more appropriate assessment indices. In retrospect, the CSBS and the HST proved, either theoretically or empirically, to be ambiguous. And, while the TAT appeared to be the more promising index, the issues of internal versus external ratings, and the adequate training of raters must be resolved. In this regard, a more effective approach would have been to obtain both internal and external ratings of the TAT stories. This would have allowed both participant/observer comparisons, as well as providing multiple data sources.

In addition, the problems of obtaining adequate experimental control are of extreme importance here, as in all research utilizing natural populations. The loss of equivalence of experimental groups, in this study,

was a major limitation, and any design reformulation needs to address this problem. As both Alker (1972) and Bowers (1973) have argued, the use of natural groups, as opposed to college sophomores, is critical. Therefore, future research must employ the methodology necessary to ensure equivalence of the diverse groups needed. This methodology should assume both experimental and administrative control, since it is only with administrative support that the necessary bureaucracies can be mobilized, and it is these bureaucracies that control access to the information and personnel necessary.

As stated earlier, the present study provided relatively little new information concerning the issue of personality consistency, and its relation to psychopathology. The results do, however, indicate some general trends in the data. First, no support was found for the hypothesis of differential variability as a function of task ambiguity. However, examination of Table 7 does show a slight increase in proportion of variance attributable to needs for the psychotic group. While these differences are not large, they are comparable to those obtained from Bowers (1973). In addition, the results of the HST do suggest that normals may be more differentiated then pathological subjects. While future research is needed

to validate the observed trends, and provide empirical support for the hypothesis of differential consistency, current conceptualizations of personality may have to be modified.

At present, the conceptualizations of Bowers (1973) and Mischel (1973a) appear to have the greatest utility. Yet, each has failed to consider the effect of differential consistency as a function of pathology.

The biocognitive view, advanced by Bowers (1973), denies the primacy of either traits or situations. Rather, situations appear to be as much a function of the person as the person's behavior is a function of the situation. This simply means that the individual both chooses to place himself in that particular situation and, at the same time, cognitively organizes the environment, based upon his unique perceptions (cf. psychological differentiation), to determine appropriate behavioral responses. This cognitive organization, then, makes it impossible to separate the individual from his environment, thereby inextricably confounding the effects of person and setting. However, if we introduce the concept of responsivity to the environment, in terms of level of adjustment, then the formulation must change. While the cognitive organization of the individual still defines the situation,

responses to that situation become a function of both the defined situation, and the ability of the individual to select, and perform, appropriate behaviors, in that particular setting. Thus, the individual's responsiveness to the situation becomes a function of his adjustment. The greater the level of adjustment, the better able the individual is to react appropriately to the environment, and it's changes, and the more impact the environment will then have on the behavior of that individual.

The influence of adjustment as a variable is equally absent in Mischel's (1973a) Cognitive-Social Learning Reconceptualization. Mischel proposes that whenever individuals are exposed to powerful situations, individual differences will be meaningless. However, when the situation becomes ambiguous, or weak, individual differences will have a pronounced effect. However, as Mariotto and Paul (1975), and this study, have argued, a given situation will have differential impact upon normal and pathological individuals. Therefore, it may take an extremely strong situation to eliminate personality effects for psychotic individuals, while it may take a relatively weak situation to do the same for normal individuals. Mischel's conceptualization, however, fails

to take this into account, thus limiting its range of applicability.

Again, these reformulations are tentative. Much remains to be accomplished in both this and related areas. Yet, the issue of personality consistency and psychopathology is critical, for in the general sense, the central tenets of both behaviorism and psychodynamic formulations are apparent here. The issues of subject population, experimental methodology, and variability relate directly to the schism between these two major theories, a schism that has only recently begun to be bridged (Mahoney, 1977).

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APPENDIX A: CONSENT FORM

I _____ acknowledge that I am voluntarily participating in this research. I further acknowledge that my participation has no connection with my treatment. I understand that all of my responses are confidential and will be held in the strictist privacy. To facilitate this confidentiality, I understand that at no time will my name appear on any of the questionnaires or forms I am to complete for the purpose of this research.

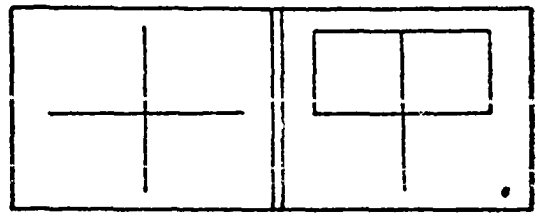
Signed,

_____

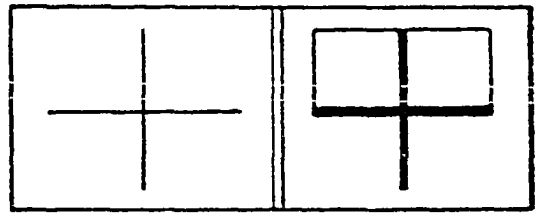
APPENDIX B: HIDDEN SHAPES

HIDDEN SHAPES

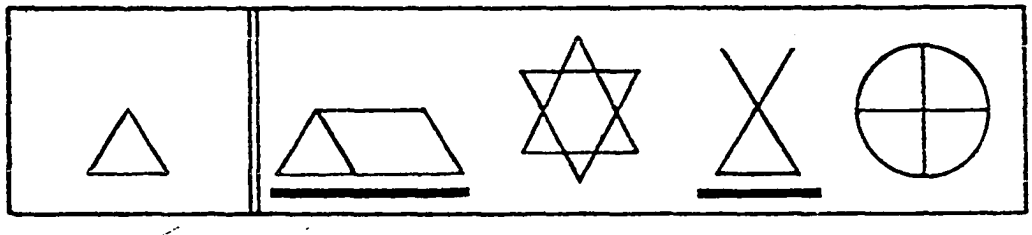
WHAT TO DO: You will be asked to find the first figure in a second figure. In the following example the first figure, a cross, is hidden in the second.



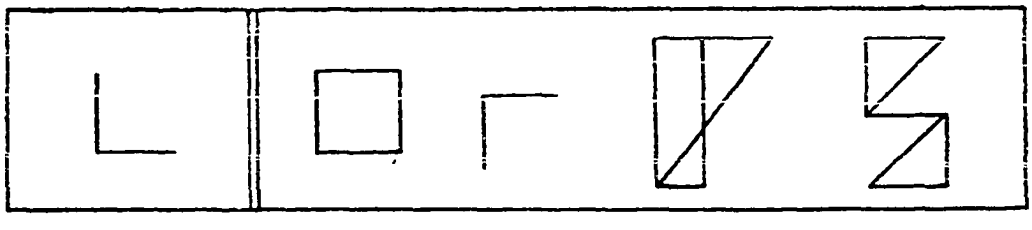
You could show it in the second, if necessary, by drawing heavy lines over it, like this:



In the next example, two figures contain the first shape and two do not. Instead of drawing in the shape, we shall henceforth simply underline the pictures which have it.

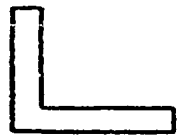
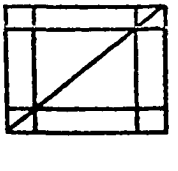
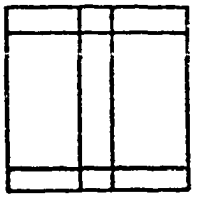
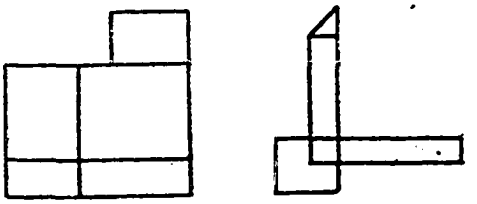
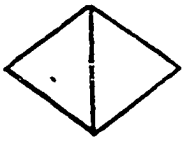
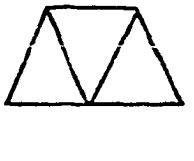
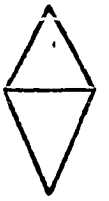
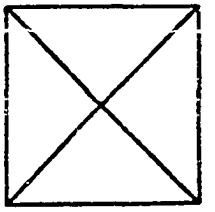
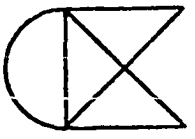
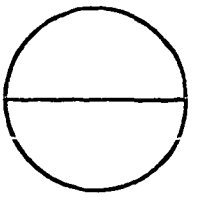
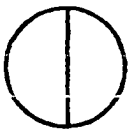
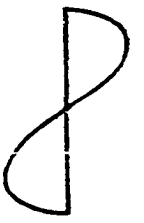
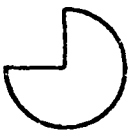
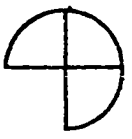
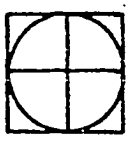
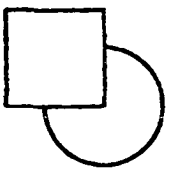
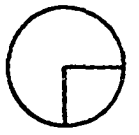
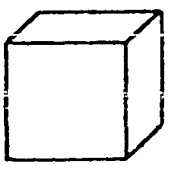
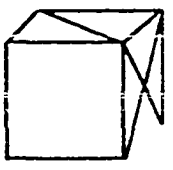
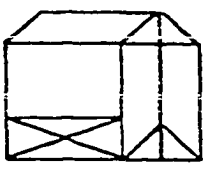
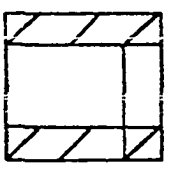
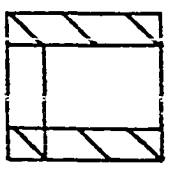
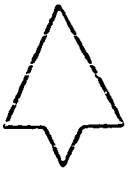
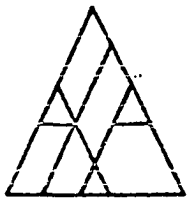
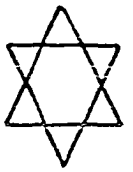
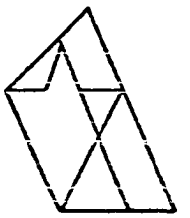
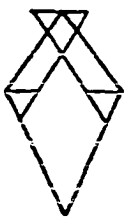


Notice that in order to count as right, the shape must be just the same size and the same way up: that is, not turned around. Here is another example. Do this one yourself.



You should have marked the first and last answers in the preceding example.

In each example on the next pages there will generally be two pictures that contain the shape and two that do not. Always underline the two that have it.

	1	2	3	4
1					
2					
3					
4					
5					
6					

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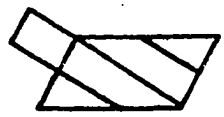
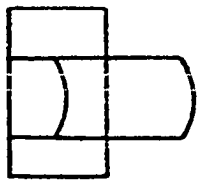
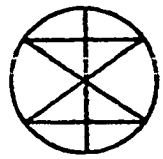
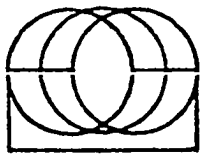
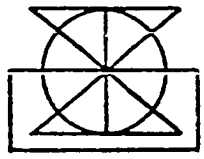
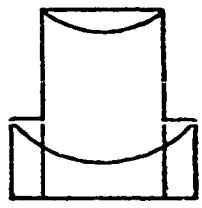
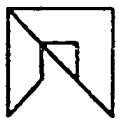
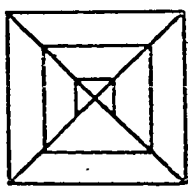
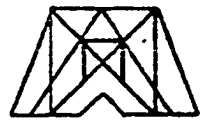
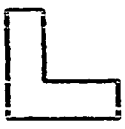
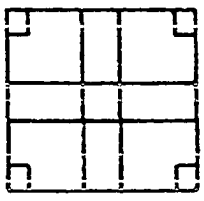
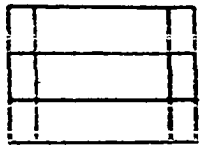
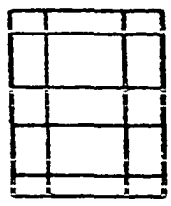
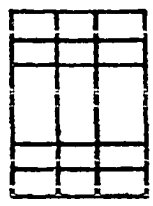
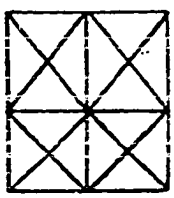
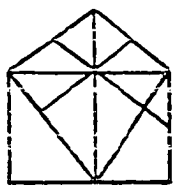
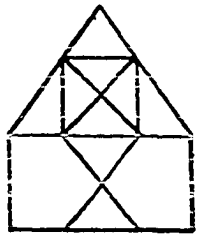
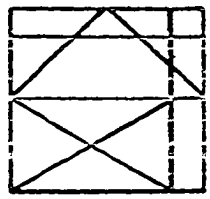
7					
8					
9					
10					
ii					
12					

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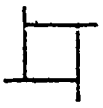
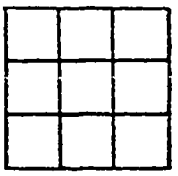
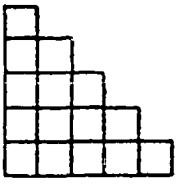
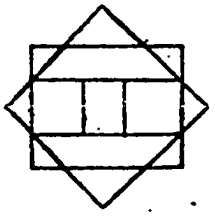
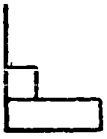
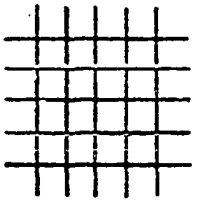
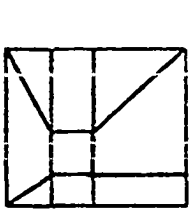
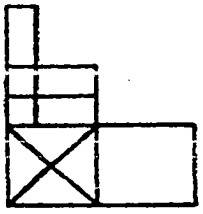
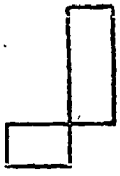
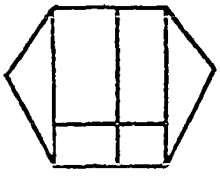
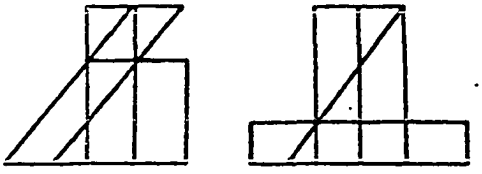
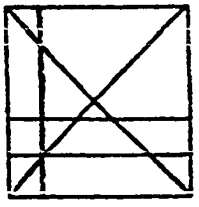
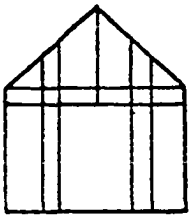
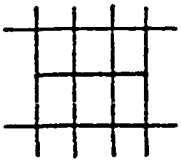
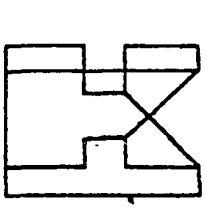
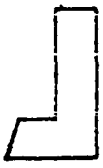
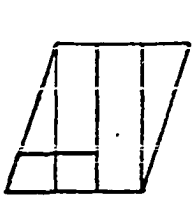
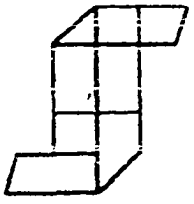
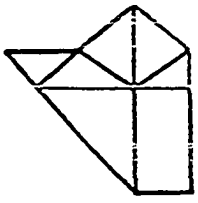
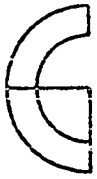
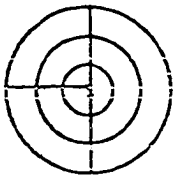
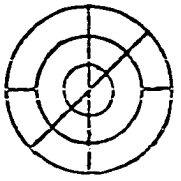
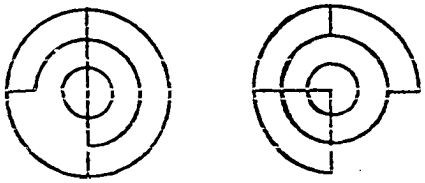
13				
14				
15				
16				
17				
18				

APPENDIX C: CROSS SITUATION BEHAVIOR SURVEY

I am studying the ways in which behavior varies from one situation to another. Therefore, I would like you to indicate how you are likely to behave in a number of situations. An example might be, "How likely are you to stay up all night?", or "How hesitant are you about crossing the street against a red light?".

I would like you to answer each question by indicating a number from 1 to 7 on the answer sheet. Use the following scale:

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

Thus, if you would never stay up all night, you would answer "1" on your answer sheet. If you are very, but not extremely, hesitant, about crossing the street against a red light, you would answer "5" or "6".

Please answer all questions as honestly as you can. Your answers will be kept confidential. I am interested in everybody's responses, rather than in the responses of one particular person.

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

1. How hard would you try to locate the owner of a lost wallet with $20.00 in it?

2. How likely are you to stay at home rather than go to a party?

3. How timid are you about insisting that a roommate or neighbor keep the noise level down to a reasonable volume when you are trying to sleep?

4. When someone accuses you of something (but you know they can't prove it), how likely are you to continue to bluff rather than admit that you really did it?

5. How likely are you to forget to fulfull small promises you have made?

6. How likely are you to chat with people in a small room?

7. How likely are you to complain to a sales person when you think you have been overcharged?

8. How likely are you to lend five dollars to a casual acquaintance who wants to take advantage of a sale?

9. How likely are you to leave your bed unmade?

10. How likely are you to forget the birthdays of the members of your family?

11. How likely are you to put off unpleasant but necessary tasks?

12. How difficult is it for you to ask a person whom you don't know to tell you the time of day?

13. When you're in a big hurry, how likely are you to take a small item from the supermarket without paying for it, rather than wait in a long line?

14. How likely are you to forget to return things you borrow from friends?

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

15. How careful are you about the way you dress?

16. How likely are you to speak out in a large group of people?

17. How tactful are you when you have to criticize a friend?

18. How likely are you to be quiet when you are with a small group of friends?

19. How likely are you to cheat at cards or other games?

20. How likely are you to let someone else be punished for your wrongdoings?

21. How likely are you to make the first move in making a new friend?

22. How neat do you keep your room?

23. How likely are you to tell off someone who pushed ahead of you in line?

24. How likely are you to report a shoplifter to a sales-clerk?

25. How important is it for you to pay back money you have borrowed from a friend?

26. How likely are you to limit your friends to a certain few?

27. How quiet are you in small groups?

28. How likely are you to lie about your age?

29. How likely are you to take advantage of someone?

30. How likely are you to take the responsibility for getting people in a group introduced?

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

31. If you put a small dent in a parked car while no one is looking, how likely are you to leave your name and address?

32. How hard do you try to be on time when people are waiting?

33. How likely are you to be late for appointments?

34. If someone angers you, how likely are you to try to hurt their feelings?

35. Do you keep on trying to get your way when someone turns you down?

36. If you accidentally break something in a store, how likely are you to report it to a salesclerk?

37. How likely are you to do a small favor for a friend?

38. How likely are you to choose to live alone rather than with other people?

39. How likely are you to go several days without a bath or a shower?

40. How likely are you to withhold your opinions when you know that most other people don't believe in what you do?

41. How likely are you to use someone else's driver license if yours was taken?

42. How likely are you to try and get even with someone, rather than forgive and forget?

43. How likely are you to talk with someone you don't know in a waiting room?

44. If a bill is added incorrectly in your favor, how likely are you to report it?

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

45. How likely are you to try and help a friend who is upset?

46. How likely are you to let dirty dishes stack up for more than a day?

47. In a restaurant, how likely are you to sit without complaining even if you've not been waited on for a long time?

48. If you were certain that you wouldn't be caught, how likely would you be to go into a movie without paying?

49. How friendly and outgoing are you at parties where there are many new people?

50. How concerned about your appearance are you?

51. How likely are you to talk when in a group of strangers?

52. When given too much change in a small store, how likely are you to return it?

53. How hard is it for you to talk with someone you've just met?

54. How likely are you to leave your things lying around where they can be stolen?

55. How likely are you to 'play sick' to get out of doing something?

56. How likely are you to be impolite to people you don't like?

57. How neat and organized are your clothes drawers?

58. If you buy something and it breaks a couple of weeks after you bought it, how likely are you to return it?

1	2	3	4	5	6	7
Not at all			Moderately			Extremely

59. How willing are you to give up something you want in order to lend money to a friend who needs it?

60. How shy are you with new people?

61. How likely are you to go along rather than make suggestions about what to do in a group of friends?

62. How likely are you to tell a lie in order to avoid embarrassing yourself?

63. If you dislike someone, how openly do you show it?

CSBS SCORING KEY

(*) Indicates item keyed in the reverse direction

Friendliness	Conscientiousness	Assertiveness
2*	5*	3*
6	9*	7
12*	10*	12*
18*	11*	16
21	14*	21
26*	15	23
27*	22	27*
30	25	35
38*	32	40*
43	33*	47*
49	39*	49
51	46*	51
53	50	53*
60*	54*	60*
61*	57	61*

Honesty	Sensitivity
1	5*
4*	8
13*	14*
19*	17
24	20*
28*	25
31	29*
36	32
41*	43*
44	37
48*	42*
52	45
55*	56*
58	59
62*	63*

APPENDIX D(1): TAT ADJECTIVES

Indicate to extent to which each of the adjectives describe the kind of person depicted in the story. The rating scale you should use is:

1. Definitely No
2. Probably No
3. Perhaps No
4. Neutral
5. Perhaps Yes
6. Probably Yes
7. Definitely Yes

Adjectives

1. Angry
2. Respectful
3. Determined
4. Friendly
5. Cautious
6. Aesthetically-inclined
7. Organized
8. Obedient
9. Erotic
10. Sociable
11. Ambitious
12. Attention-seeking
13. Self-justifying
14. Protective
15. Self-reliant
16. Self-accusing
17. Playful
18. Ashamed
19. Dominant
20. Sexy
21. Independent
22. Supportive
23. Self-reproaching
24. Artistic
25. Jovial
26. Persevering
27. Aspiring
28. Careful
29. Showing-off
30. Self-defensive
31. Hostile
32. Embarrassed
33. Powerful
34. Orderly

APPENDIX D(2): TAT NEEDS AND ADJECTIVES

1. Aggression--1 and 31
2. Affiliation--4 and 10
3. Achievement--11 and 27
4. Abasement--16 and 23
5. Autonomy--15 and 21
6. Counteraction--3 and 26
7. Deference--2 and 8
8. Defendence--13 and 30
9. Dominance--19 and 33
10. Exhibition--12 and 29
11. Harmavoidance--5 and 28
12. Infavoidance--18 and 32
13. Nurturance--14 and 22
14. Order--7 and 34
15. Play--17 and 25
16. Sex--9 and 20
17. Sentience--6 and 24

APPENDIX E: MMPI RULES

1. If L ≥ 70, F ≥ 80, or ? ≥ 60 -- Rules do not apply.

2. Delete scales 0 and 5.

Computations:

1. Band location

$$(Pt + Sc) - (Hs + D) = Beta$$

Band Number	Beta Value
1	-31 and less
2	-30 through -11
3	-10 through +6
4	+7 through +25
5	+26 and above

2. Delta

$$(Pd + Pa) - (Hs + Hy) = Delta$$

3. Hathaway Code

4. Welsh Index (compute if no score is equal to or greater than 70)

$$IR = Hs + D + Pt/Hy + Pd + Ma$$

5. Apply rules consecutively until classification is reached.

6. Curve types:

P -- psychotic curve type

N -- neurotic curve type

I -- indeterminent curve type

1. Elevation Rule: If seven of the eight clinical scales scales are equal to or greater than 80 and five of them are equal to or greater than 90, then call P, unless Delta is equal to or less than 15, then call I.
2. Manic Rule: Apply only if code begins with 9 or 9.
   A. Ma greater than (Hs & D & Hy) by 15 points, or more, call P, unless one of the following conditions holds, in which case proceed:
      1. D + Pt $\geq$ 115, or
      2. Hs, D, Hy all $\geq$ 50
   B. Ma not greater than all three of the neurotic triad by 15 points, proceed.
3. Normal Profile Rule: Apply only if none of the eight clinical scales are greater than or equal to 70.
   A. All scores $\leq$ 55, call I.
   B. IR $\leq$ .90
      1. Delta $\leq$ 0, call I
      2. Otherwise, call P
   C. IR $\geq$ .90
      1. Delta $\leq$ -10, call N, unless code 4, 6, or 8, then call I
      2. Delta $\geq$ -10
         (a) both D and Hy $\geq$ (highest among Pd, Pa, Ma), then call N

(b) either D or Hy ≥ (highest among Pd, Pa, Ma), then call I

(c) neither D not Hy ≥ (highest among Pd, Pa, Ma), then call P

4. Fake Good Rule: Apply if L ≥ 60.

   A. Band 3, 4, or 5, call P.

   B. Band 2, call I.

   C. Band 1, call N.

5. Psychotic Code Rule: Apply to primed codes only. If first three digits of the code are among the four digits 4, 6, 8, 9, and at least one is primed, call P.

6. Slope Rule: If each of the three scores Pa, Pt, and Sc is ≥ all of the three scores Hs, D, and Hy, and Pa or Sc or both ≥ 70, call P.

7. 4' Rule: Apply if the code is 4' or 4".

   A. Band 4 or 5 and Delta ≥ 0, call P.

   B. Band 1 or 2 and Delta negative, call N.

   C. Otherwise, call I.

8. 6' Rule: Apply if code is 6' or 6".

   A. Code 6", or 6...", call P.

   B. Code 6', or 6...', call P unless

      1. Band 1, call I, or

      2. Delta ≤ +20 and (Pa - Pt) ≤ +10, call I

9. 8'4 Rule: Apply if code 8'4 or 84' or higher.

   A. Sc > Pt by 10 points, call P.

   B. Otherwise, proceed.

10. (Sc - Pt) Rule: Apply only if Sc ≥ 80.

   A. Sc > Pt by 10 or more points, unless Delta ≤ -60, call P.

   B. Pt ≤ both Pa and Sc, Pa ≥ 70, call P.

   C. Otherwise, proceed.

11. (Pa - Pt) Rule: Apply if Pa ≥ Pt, and Pa ≥ 70.

   A. Pa ≥ 70 and (Pa - Pt) ≥ 10, call P, unless Band 1, in which case proceed.

12. Band 1 Rule: Curve in Band 1. Call N unless one of the following hold, in which case call I.

   A. F, Pd both ≥ 70, or

   B. Pd ≥ 65 and Pa ≤ 45, or

   C. Delta ≥ 0, or

   D. D ≥ 100 and (D - Ma) ≥ 60.

13. Band 2 Rule: Curve in Band 2. Call N unless one of the following hold, in which case call I.

   A. D ≥ 100 and (D - Ma) ≥ 60, or

   B. Pa ≥ 75.

14. Band 3 Rule: Curve in Band 3.

   A. D ≥ 85

      1. Pd > Hs by 10 points and Pd or Pa ≥ 70, call P.

2. 27 or 72 code, no other score ≥ 80, both Pd and Pa ≤ 70, call N.

3. Otherwise, call N.

15. Band 4 Rule: Curve in Band 4.

A. All signs below present, call P

1. (Sc ≥ Pt), and

2. Code 9 or 8, and

3. Sc or Pd ≥ D.

B. None of the three present, call N.

C. Otherwise, call I.

16. Band 5 Rule: Curve in Band 5.

A. D ≥ 75. Both signs below present, call P, otherwise call I.

1. Pd ≥ 75 and ≥ Hy, and

2. Sc ≥ Pt

B. D < 75. All three signs below present, call N.

1. Pt > Sc by ten points, and

2. Sc ≤ 80, and

3. Pa ≤ 70.